Louisiana's Management Measures: Agriculture

IVA. LOUISIANA MANAGEMENT MEASURES FOR AGRICULTURE

INTRODUCTION

Heavy rainfall in Louisiana rinses a variety of pollutants off the land, sending them into our coastal waters. There pollutants accumulate, threatening organisms ranging from shrimp and oysters, to redfish, brown pelicans and bald eagles. In order to reduce the delivery of polluted runoff water from the land to coastal waters, Louisiana's Coastal Nonpoint Pollution Control Program, coordinated between many agencies and advisors, will ultimately 1) identify Best Management Practices (BMPs) appropriate for all applicable pollutant source categories, and 2) carry out a initiatives of public education, technical assistance, and development of enforcement protocols in order to get BMPs implemented on the land.

Louisiana's Coastal Nonpoint Pollution Control Program will address the **AGRICULTURE SOURCE CATEGORY**, through all SEVEN management measure subcategories recommended by the National Oceanic and Atmospheric Administration (NOAA) and the Environmental Protection Agency (EPA). Louisiana is not proposing to exclude any management measures recommended by NOAA and EPA for this particular source category. The management measure subcategories that will be addressed in Louisiana's program are as follows:

1. (II.A) Erosion and Sediment Control
2. (II.B.1.) Confined Animal Facility, Small
3. (II.B.2.) Confined Animal Facility, Large
4. (II.C) Nutrient Management
5. (II.D.) Pesticide Management
6. (II.E.) Grazing Management
7. (II.F.) Irrigation Management

APPLICABILITY of each of the seven management measures must be considered carefully and thoughtfully, with the understanding that some of the measures are only applicable to South Louisiana in a very limited sense. The management measure for **Erosion and Sediment Control** is broadly applicable to Louisiana agriculture, although all BMPs associated with that measure will not apply to all farms. The management measure for **Confined Animal Facility, Small,** is of very limited applicability because of the limited number and limited geographical distribution of any such facilities. The same restriction applies to the management measure for **Confined Animal Facility, Large**. The measure for **Nutrient Management** is broadly applicable to Louisiana agriculture, although all BMPs associated with that measure will not apply to all farms. The management measure for **Pesticide Management** is broadly applicable to Louisiana agriculture, although all BMPs associated with that measure will not apply to all farms. The measure **Grazing Management** must be applied very cautiously, as some of the associated BMPs are only applicable to managed pasture, and are not appropriate for open range or marsh fringe areas. The measure for **Irrigation Management** can only be applied in a limited sense, as a portion of South Louisiana's land is used for the production of leveed and flooded rice, but

little other crop land could be considered "irrigated" as the term is understood in other areas of the country.

ADMINISTRATIVE COORDINATION for agriculture is expected to be coordinated between the Louisiana Department of Natural Resources, and the Louisiana Department of Agriculture and Forestry, along with the Louisiana Department of Environmental Quality, and other entities (see section IIIC).

TECHNICAL ASSISTANCE for agriculture will continue to be provided by a team of agencies featuring the Louisiana Cooperative Extension Service, and the Natural Resource Conservation Service, but also including the Louisiana Department of Agriculture and Forestry, the Louisiana Department of Environmental Quality, the Consolidated Farm Services Agency, and others (see section IIIA).

MONITORING for compliance with BMP implementation is expected to be led by the Louisiana Department of Agriculture and Forestry. **MONITORING** of water quality will be led by the Louisiana Department of Environmental Quality, supplemented by the pesticide monitoring network of the Louisiana Department of Agriculture and Forestry, water sampling programs of the United States Geological Survey, and the Louisiana Department of Health and Hospitals (IIID).

Best Management Practices (BMPs) for Agriculture for the LA Coastal Nonpoint Pollution Control Program

In Louisiana, agriculture is one of several land use categories generating nonpoint source pollution, some of which can be expected to reach coastal waters. In recognition of this, a cross-section of Louisiana's agricultural community has invested considerable time and effort in coordinating with governmental agencies to begin to identify effective and appropriate Best Management Practices (BMPs) for Louisiana, and to implement voluntary programs to reduce nonpoint source pollution. This is an ongoing process. Much work has been done thus far under the leadership of the Louisiana State University Agricultural Center toward identifying BMPs by commodity or livestock enterprise. The Best Management Practices Review and Development Program is a multi-agency program created in 1991 to evaluate the use of BMPs as a vehicle for environmental improvement on agricultural and forest lands. The program was conceptualized to be statewide, watershed based, and using site specific approaches for BMP applications. The BMP Review and Development Program was intended to help achieve voluntary producer implementation of economically achievable, effective BMPs, statewide. To date, BMPs associated with production of cotton, dairy, rice, sugarcane, feed grains, poultry production, and soybeans have been evaluated with written reports produced. BMPs pertaining to forestry production have also been evaluated and compiled by the Louisiana Forestry Association (LFA) in association with the Louisiana Office of Forestry (LOF) and the Louisiana Cooperative Extension Service (LCES). However, some words of caution are in order here.

1. While the BMP review committees have addressed the major crop commodities and agricultural enterprises present in South Louisiana, there are reviews of others yet to be completed. Work has continued during the second half of calendar year 1994 and the first half of 1995 on the "second phase" commodities and enterprises such as sweet potatoes, ornamental nursuries,

swine production, commercial vegetables, aquaculture, and agricultural and seafood processing. Of these, only the last three are particularly relevant to coastal Louisiana.

2. While the review committees made qualitative judgements evaluating BMPs on pre-existing lists, many other BMPs not examined by this group are in use now, or are emerging as recent innovations, and the evaluators did not want to exclude additional worthy BMPs from consideration. Louisiana's agriculture community members do not want to draw up a list of "endorsed BMPs" that would leave out many other good practices that may be highly effective and imminently practical in many situations.
3. While the statewide review committees utilized BMP lists that included the 6217(g) coastal guidelines, questions have been raised as to what extent these committee members realized that the BMPs they highlighted or ranked for general purposes, could potentially be institutionalized and enforced as state law for specific programs such as the CNPCP. Louisiana wants to foster communication between all involved parties, to increase the understanding of what is needed for the CNPCP program, and to reduce the chances that someone might feel his/her work was misapplied or misrepresented in any way.
4. The review committees were organized by commodity, but the 6217(g) guidance is organized by "management measure" or by problem issue subcategory. It is anticipated that the committees will regroup accordingly and reconvene in the coming months.

Characterizing Agriculture in South Louisiana

To better understand the place of agriculture in the protection of Louisana's coastal waters, it is essential to grasp an important distinction. Firstly, in the state of Louisiana as a whole, agriculture is of critical importance to our economy and way of life. Agriculture contributed $8 billion to Louisiana's economy in 1994, with $3 billion in raw crop and livestock commodities, and another $5 billion in value added from processing. While cotton plays a pivotal role in providing jobs and supporting the tax base in North Louisiana's East Carroll Parish, sugar cane plays a comparable role in sustaining a viable economy in South Louisiana's Assumption Parish. A healthy appreciation for the agricultural community influences governmental decision-making across the entire state of Louisiana.

However, in much of South Louisiana near our coastal waters, there is relatively little land capable of supporting crop cultivation or other intensive forms of agriculture. South Louisiana contains 40% of the coastal marshes of the contiguous United States. Projecting into low-lying wetlands are fingers of higher land, often remnants of natural levees left behind by shifts in the Mississippi River delta locations over thousands of years. High ground is the exception in South Louisiana. Local geography is dominated by flood plain, swamp and marsh. What that means is that well-drained land is not plentiful, and is valued at a premium. Any particular use of this land must pay its own way with substantial returns to investment, or otherwise be bought out by some competing land use. The fact that any agriculture at all remains in the eastern half of South Louisiana attests to the economic clout of the agricultural enterprises there. The major agricultural commodities produced in South Louisiana are **sugar cane, rice, dairy farming,** and **beef cattle**. Dairying, may be of greater impact than beef production, but dairying is geographically localized to the "Florida Parishes" north of Lake Pontchartrain.

Sugar cane is one of the highest value agricultural commodities in all of Louisiana. In 1993, the state of Louisiana harvested 360,000 acres of sugar cane, which increased to 383,000 in 1994.

Although sugar cane is limited by climate to South Louisiana, sugar cane requires well-drained soils, and the majority of its farms are located outside of Louisiana's coastal zone (see map). Sugar is produced on relatively large tracts, with producers in the leading parish, Iberia, averaging 417 acres in cane per farm in 1993. Reports by the Louisiana Dept. of Agriculture and Forestry indicate that many Best Management Practices tend to be used on cane fields, but questions have been raised as to the applicability of putting tracts of this size into cover crops to span fallow periods. The Louisiana Dept. of Environmental Quality and the Barataria-Terrebonne National Estuary Program have set up both research and demonstration projects to promote sugar cane BMP implementation. Some preliminary findings of these projects seem to suggest that banded applications of pesticides can achieve reduced levels of pesticide usage, while maintaining adequate levels of control. A new cane variety was recently released by the experiment station with improved resistance to both insects and disease, and offering the hope of needing significantly less pesticide. Local representatives of the American Sugar Cane League have been among the most active citizens in providing input into the development of the Louisiana's CNPCP thus far.

Rice is the other major crop in South Louisiana. It was the fourth largest crop commodity in all of Louisiana in 1993 by value. The total statewide harvested acreage, 530,000, was divided between seven parishes of Southwest Louisiana (327,000 acres in that subregion; Vermilion largest parish with 90,700 acres); and over 20 parishes farther to the northeast, extending to the Arkansas state line. In 1994 LDEQ surveyed rice producers in the Bayou Queue de Tortue area regarding BMPs in use and found that producers intended to continue to utilize BMPs even without cost-sharing money. In addition to LDEQ activities in SW LA, nonregulatory programs in the area include the Operation Quackback Program, jointly sponsored by Louisiana Cooperative Extension Service, the Louisiana Farm Bureau Federation, and the Louisiana Rice Growers Association. This program promotes the simple practice of holding water on rice fields over the winter months, providing supplementary habitat for migratory waterfowl, with a related increase in consumption of "red rice" weed seeds. Reduction of this weedy pest should translate into less herbicide needed in the spring. Additional conservation benefits of the practice are realized by allowing time for fine sediments to settle out, and protecting the soil surface from the erosive force of hard Louisiana rains with a cover of standing water.

Dairy farms constitute the most signifcant form of **Confined Animal Facility** in proximity to Louisiana's coastal zone. Dairy operations are found in watersheds tangent to Louisiana's coastal zone in three parishes: Livingston, St. Tammany, and Tangipahoa. While these parishes (along with Washington, and St. Helena Parishes) have almost 80% of all Louisiana's dairy farms, only a few of their dairy farms (three?) are located within the coastal zone. Since 1989, there has been a vigorous, voluntary dairy BMP implementation program in this area, involving multiple agencies and organizations. The effort has resulted in the installation of no-discharge lagoons to handle dairy wastes. The current results of the program indicate that in Tangipahoa Parish alone, where one-half of the area's dairies are located, 120 lagoons have been installed, and 45 lagoons are in the planning stage. When dairy closures are added to these numbers, 73% of the parish's 270 dairies currently have or are planning no-discharge lagoon installation for handling their wastes, or have ceased operation as a dairy farm. The adjoining parishes are also participating in the current BMP implementation program.

Beef cattle are raised all over Louisiana in small cow/calf farm herds, and in Southwest Louisiana in lower density open range conditions. **Concentrated Animal Facilities, in the form of feed lots, are virtually nonexistent in South Louisiana**. The statewide mean beef herd size was only 45 head in 1993. That figure jumps to 85 head in Cameron Parish, the largest parish in the state, by area, where the cow-to-person ratio is almost 4:1, however, those herds are dispersed over the corresponding larger areas, giving low densities of animals. This is an important distinction: **grazing management measures** designed for intensively managed pastures of the Eastern United States are of limited applicability to low animal density range conditions. Further, management measures designed for protecting well-defined water courses are not necessarily applicable to regions of high rainfall and flat topography where the borders of streams and wetlands are quite variable. Louisiana may need to break its grazing BMPs, currently under development, into separate subsets for "range" and "pasture." Some livestock raising BMPs are eligible for USDA (CFSA) cost-share money. Earthmoving for construction of cattle walks through the marshes is regulated by Coastal Use Permit from LDNR, and (404/401) permits from USACOE and LDEQ.

Truck produce (annual fruits and vegetables), and citrus fruit operations are similar to dairies in that a relatively small acreage is dedicated to these land uses for the state as a whole, yet much of what we have is concentrated geographically (Tangipahoa Parish, the southern half, and Plaquemines Parish). The annual fruits and vegetables, mainly **strawberries, peppers, cucumbers, and cabbage,** are raised in some proximity to coastal waters (ten to thirty miles from the brackish lakes Pontchartrain and Maurepas) and the intensity of inputs and polluted runoff potential from this clustering could be significant. However, the positive side of the clustering should be recognized, in terms of efficiencies in public outreach, demonstration, and technical assistance efforts. All of these efforts are supported by the LSU Agricultural Center's Hammond research station, dedicated to truck crops and horticulture. In 1993 all of Tangipahoa Parish had 250 producers of strawberries on 1000 acres, and 50 producers of bell peppers on 900 acres. The largest parish for citrus fruit orchards, Plaquemines, had 150 producers of citrus fruits, with a total area in production of only 510 acres. The Best Management Practice Review committee for commercial fruits and vegetables began a series of meetings in 1994, and a report of their findings is forthcoming.

Soybeans *were* more important in South Louisiana in the mid-and late-eighties than they are now. The $7.50 per bushel beans of 1988 had fallen to $5.50 in 1991 and acreages planted tend to correspond with these market trends (from 2.0 million acres statewide, down to 1.0 million acres). In addition, Louisiana soybean production has been subjected to increasing biological pressure by pests such as red crown rot, stem canker, and root knot nematodes. Soybeans have been grown on a variety of soils, which adds up to a menu of alternative land uses available to replace soybeans. Statewide, cotton, corn, and to a lesser extent, hay, have increased at the expense of soybeans. But in South and Central Louisiana, tracts of poorly-drained bottomland cleared for beans in the 1970s were prime sites to let revert back to non-agricultural vegetation when opportunities appeared with the Wetland Reserve Program, the Conservation Reserve Program, and the Forestry Incentive Program. In 1988 Vermilion/Cameron/Calcasieu Parishes combined to harvest 138,500 acres of soybeans for grain. In 1991 the three parish total was down to 7,200 acres. It rebounded somewhat to 52,400 acres in 1993, and fell to 37,000 acres in 1994.

II. EXISTING NPS PROGRAMS IN LOUISIANA: REGULATORY AND NONREGULATORY

REGULATORY PROGRAMS

The Dept. of Environmental Quality's oversight authority over discharges into surface waters (402 program) is documented in Section 402 of the Clean Water Act. A discharge permit is required for any point source discharge into waters of the state. This includes discharge from dairy lagoons, non-irrigation agricultural lagoons, catfish, crawfish, and alligator farms, and from rice seed soaking operations. All other agricultural activities are exempt from Louisiana state water discharge permits. There is an anti-degradation provision in the regulations to not allow state waters to go below current designated use support levels. This provision can be used to bring violators into compliance. Whether this authority could be extended to irrigation tailwaters remains subject to interpretation.

The Louisiana Natural and Scenic Rivers System

The Louisiana Natural and Scenic Rivers System is one of the nation's largest. It encompasses 51 streams or stream segments and is over 1,500 miles in length. There are nine Scenic Rivers within the present boundaries of the Louisiana Coastal Zone. The System was proposed in the late 1960's and was brought into existence in the early 1970's with the passage of the Louisiana Natural and Scenic Rivers Act (La.R.S.56:1840 *et seq*.). The Act established a regulatory program and empowered the Secretary of the Louisiana Department of Wildlife and Fisheries (LDWF) to administer the System through regulation and permits. This regulatory program prohibits the following activities on all designated Scenic Rivers: channelization; channel re-alignment; clearing and snagging; impoundments of any type; and commercial clear-cutting of timber within 100' of the low water mark. Activities which may have a direct, significant or ecological impact on the streams and would thus require a "Class B" permit includes the following: bridge, pipeline and powerline crossings; bulkheads, piers, docks and ramps; waste water discharges; and land development adjacent to the stream. Any other activity that may have a direct, significant, ecological impact on the stream **or its tributaries or distributaries** is subject to regulation by permit by the Department of Wildlife and Fisheries. Scenic Rivers permits require the evaluation of twelve criteria for issuance. These include the following: cultural associations; historical/archaeological artifacts; economic changes; wilderness/rural qualities; scenic/aesthetic values; recreational opportunities; ecological systems; fish and other aquatic life; wildlife species; botanical elements; geological/hydrological features; and water quality/quantity.

The Scenic Rivers System Permit is issued by the LDWF with a multi-agency review by the LDWF, Office of State Planning and Budget, Louisiana Department of Environmental Quality (LDEQ), and the Louisiana Department of Agriculture and Forestry (LDAF). All permit applications are reviewed on a case-by-case basis, and most involve on-site inspections of the project area. The monitoring and enforcement of the permits will be handled by LDWF agents through site investigations and inspections, surveillance and citizen complaints. Enforceable policies and mechanisms for this program include criminal penalties with fines and civil penalties with fines and adjudication. Penalties include: up to $1,000 fines for each violation; suspension, annulment, withdrawal or revocation of the permit; institution of civil proceedings in district court; and issuance of cease and desist orders, compliance orders, injunctions or other appropriate relief. The program currently issues 15-20 permits per year.

The LDNR is discussing a Memorandum of Agreement with LDWF to oversee implementation of certain provisions of the CNPCP, to monitor and educate staff, contacts, and permittees on the provisions of the program, and to report noncompliance to the LDNR on at least a quarterly basis. The LDWF may incorporate said provisions as special conditions to their Scenic Rivers Permits and other projects until such time as these nonpoint pollution abatement measures become standard permit conditions. A "bad actor" provision for agriculture, forestry, or hydromodification activities is expected to be available to be invoked when the need arises in the future.

The Louisiana Natural and Scenic Rivers System Permit in conjunction with the Louisiana Scenic Rivers Act provide some enforceable policies for the 6217(g) management measures. It requires scenic stream management plans (MM 2 II.C.); it requires permits for "waste water discharges" (MM 2 II.B.,C., and F.) and its permit evaluation process would give strong consideration to most of the BMPs recommended in MM 2 II. A for **Erosion and Sedimentation Control**, and in MM 2 II.D. for **Pesticide Management**.

Louisiana Department of Natural Resources (LDNR) Coastal Use Permit Program

The Coastal Management Division (CMD) of the Louisiana Department of Natural Resources (LDNR) is charged with implementing the Louisiana Coastal Resources Program under authority of the Louisiana State and Local Coastal Resources Management Act of 1978 (Act 361, La.R.S.49:214.21). Under this authority, the Coastal Use Permit Program (CUPP) has been established by the CMD to help ensure the management and reasonable use of the state's coastal wetlands. The CUP program carries the authority to enforce either legal or administrative procedures, including levying fines, issuing cease and desist orders, and requiring mitigation or restoration. The CMD Enforcement and Monitoring section monitors permitted activities in the coastal zone for compliance with permit conditions, and patrols by air, land, and water the entire coastal zone for unauthorized activities.

The CUP Program has oversight for land use activities in the designated coastal zone that involve dredging, fill, or other earth-moving or drainage impacting activities. Activities that may require a coastal use permit include dredge and fill projects, sewage treatment plant siting, waste-water discharge, drainage projects, pumping facilities, marsh management activities, water level control, levee construction, solid waste dump siting, roads and bridges, park siting, freshwater diversion, and mosquito control. Exempt from the program are silvicultural operations, as well as activities in leveed fastlands, in areas above the 5-foot contour interval, and on lands of federal jurisdiction. **Agricultural activities are excluded from the program where carried out in areas that traditionally have been used for agriculture.** The Louisiana Administrative Code 43 § 723 (B.7 a-b) reads:

Agriculture, forestry, and aquaculture activities on land consistently used in the past for such activites shall not require a coastal use permit provided that: The activity is located on lands or waters which have been used on an ongoing basis for such purposes, consistent with normal practices, prior to the effective date of the Act 361 of 1978; the activity does not require a permit from the U.S.Army Corps of Engineers and meets federal requirements for such exempted activities, and; the activity is not intended to, nor will it result in, changing the agricultural, forestry, or aquacultural use for which the land has been consistently used for in past to another

use. The exemption includes but is not limited to normal agricultural, forestry, and aquacultural activities such as plowing; seeding; grazing; cultivating; insect control; fence building and repair; thinning; harvesting for the production of food, fiber, and forest products; maintenance and drainage of existing farm, stock, or fish ponds; digging of small drainage ditches; or maintenance of existing drainage ditches and farm or forest roads carried out in accordance with good management practices.

Presently subject to regulation by permit are construction of cattlewalks and excavation for new crawfish ponds, but there were no permit applications made for either of these categories during the past year of October 1993 to November 1994. Agriculture would be regulated under the CUP Program when the proposed land uses involve earth-moving in the coastal zone for new developments. The coastal management guidelines used to issue coastal use permits specify that "linear facilities," which includes roads, shall be planned using the best practical techniques to minimize disruption of natural hydrologic and sediment transport patterns, sheet flow and water quality (La. Admin. Code tit.43:I.705[I]), and thus would be most applicable to the management measure for **Erosion and Sediment Control**, management measure 2 II.A. While the program does not generally exert authority over agriculture in coastal Louisiana, there appears to be room in the wording of the code for a stricter interpretation, and extension of such authority to address other of the 6217 (g) management measures for agriculture.

LDAF Louisiana Pesticide Law and Applicator Certification Program

The Federal Insecticide, Fungicide and Rodenticide Act as amended in 1972 (FIFRA) requires individuals who apply restricted use pesticides to be certified applicators. Likewise, the Louisiana Pesticide Law (La.R.S.3:3201) states that: "No person shall apply or supervise the application of any restricted use pesticide as a private applicator unless that person has the proper certification."

This certification, for both commercial and private pesticide applicators, is necessary in order to buy, use, or supervise the use of restricted pesticides. Certification is issued after the applicant has satisfactorily passed an examination or has satisfactorily demonstrated knowledge of the laws, rules and regulations, and safety practices governing the sale and application of restricted use pesticides.

Examinations are given and certifications are issued by the Louisiana Department of Agriculture and Forestry (LDAF). The Louisiana Cooperative Extension Service (LCES), by cooperative agreement, is responsible for the training necessary to become a certified applicator. Workshops are conducted covering all aspects of pesticide use as delineated in 40CFR171. Applicators must be recertified every three years. The Louisiana Pesticide Applicator Certification Program addresses the 6217 (g) management measure for agriculture, 2 II.D., **Pesticide Management**.

U.S. Army Corps of Engineers 404 Permit Program

The Department of the Army regulatory program is one of the oldest in the federal government. The legislative origins of the program are the Rivers and Harbors Acts of 1890 (superseded) and 1899 (33 U.S.C.401 et seq.). Various sections establish permit requirements to prevent unauthorized obstruction or alteration of any navigable water of the United States.

In 1972, amendments to the Federal Water Pollution Control Act added what is commonly called Section 404 authority (33 U.S.C.1344) to the program. The Secretary of the Army, acting through the Chief of Engineers, is authorized to issue permits, after notice and opportunity for public hearings, for the discharge of dredged or fill material into waters of the United States at specified disposal sites. Selection of such sites must be in accordance with guidelines developed by the Environmental Protection Agency in conjunction with the Secretary of the Army. These guidelines are known as the 404 (b) (1) Guidelines. The Federal Water Pollution Control Act was further amended in 1977 and given the common name of "Clean Water Act."

Section 10 (33 U.S.C.403) contains the most frequently exercised authority in the Rivers and Harbors Act. Section 10 covers construction, excavation, or deposition of materials in, over, or under navigable waters, or any work which would affect the course, location, condition, or capacity of those waters. Navigable waters in the River and Harbors Act of 1899 are defined (33 CFR 329) as, "those waters that are subject to the ebb and flow of the tide and/or are presently used, or have been used in the past, or may be susceptible to use to transport interstate or foreign commerce."

The Clean Water Act uses the term "navigable waters" which is defined (Section 502 [7]) as "waters of the United States, including the territorial seas." Section 404 jurisdiction then is defined as encompassing Section 10 waters plus their tributaries and adjacent wetlands and isolated waters where the use, degradation or destruction of such waters could affect interstate or foreign commerce.

The discharge of dredged or fill material into waters of the United States requires a Section 404 permit. This includes return water from dredged material disposed on the upland and generally any fill material (e.g., rock, sand, dirt) used to construct fast land for site development, roadways, or erosion protection.

Normal farming, silviculture, and ranching activities such as plowing, seeding, cultivating, minor drainage, harvesting for the production of food, fiber, and forest products, or upland soil and water conservation practices are exempt under the 404 permitting process [CWA, Sec404 (f) (1)]. However, agricultural activities in designated wetland areas require a federal permit. Nonpoint source agricultural activities related to road construction may involve point source discharges of dredged or fill material and also may require a Section 404 permit{LAC tit.33:IX.301(M)(2)(a)}.

The federal 404 permit requires a 401 Water Quality Certification issued by the Louisiana Department of Environmental Quality (LDEQ). This is a regulatory program administered by the state of Louisiana. The 401 Water Quality Certification's recommendations are incorporated into the Section 404 permit, and is then monitored through the USACOE's federal program as conditions of the federal permit.

The CWA Section 404 permit also requires that in addition to applying the state's approved Best Management Practices to the permitted activity, fifteen baseline provisions mandated by the USACOE must also be implemented.

SFWS Endangered Species Act/Critical Habitat Identification

The Endangered Species Act was enacted in 1973 to provide a means whereby the ecosystems upon which endangered species and threatened species depend would be conserved and also to provide a program for the conservation of such endangered species and threatened species. The Act is regulatory, nationwide in scope, and provides protective regulations for threatened species; recovery plans for the conservation and survival of endangered and threatened species; and includes penalty and enforcement provisions for violations of the Act. The U.S. Fish and Wildlife Service implements and has oversight for the Endangered Species Act in Louisiana.

Provisions of the Endangered Species Act relates to the following 6217(g) management measures and their components: 2 II.A.u."wetland and riparian zone protection," and 2 II. D. on pesticides, by providing an enforceable mechanism to provide protection for threatened or endangered aquatic species habitat areas.

Worker Protection Standard for Agricultural Pesticides

The new Worker Protection Standard for Agricultural Pesticides issued by the U.S. Environmental Protection Agency (EPA) consists of revised regulations intended to reduce the risk of pesticide poisonings and injuries among agricultural workers and pesticide handlers through appropriate exposure reduction methods. These new regulations expand the requirements for issuing warnings about pesticide application, use of personal protective equipment, and restrictions on entry to treated areas. New requirements were added for decontamination, emergency assistance, maintaining contact with handlers of highly toxic pesticides, and pesticide safety training.

Agricultural workers, including those in forest related cultivation and harvesting tasks, and pesticide handlers are targeted by this new Worker Protection Standard. New WPS provisions are intended to: (1) eliminate exposure to pesticides, (2) mitigate exposures that occur, and (3) inform employees about the hazards of pesticides. The Louisiana Cooperative Extension Service (LCES) is involved in an extensive statewide outreach program to inform agricultural producers of what they must do to be in compliance with this program.

The 6217(g) management measure 2 II.D is addressed by this worker protection standard. It applies to agricultural workers and pesticide handlers who are involved in pesticide applications conducted as a part of normal agricultural activities. As stated, all workers involved in cultivation and harvest of plants in forests or those that handle agricultural pesticides are covered.

NONREGULATORY PROGRAMS

Lake Pontchartrain Basin Foundation

The primary goal of the Lake Pontchartrain Basin Foundation (LPBF) is to develop a comprehensive plan to clean up and restore water quality in the Pontchartrain Basin. This is to be done in cooperation with the U.S Environmental Protection Agency, with a grant for $500,000. The LPBF is working with the local and state agencies to incorporate any existing legal or regulatory authority into the plan. The LPBF was founded under La Legislative Act 716, and began operations in 1989. They are currently working with the NRCS and the dairy farmers

north of the lake, on a plan to continue installation of no-discharge lagoons to reduce the amount of dairy waste entering the lake. This program started in March of 1993 and a number of farmers have signed up to participate. The LPBF has several ongoing projects for improving the lake's habitat that include constructed wetlands creation, freshwater diversion projects, and upgrading small municipal sewage systems north of the lake.

Louisiana Cooperative Extension Service (LCES)
Public Education and Outreach Program

The Louisiana Cooperative Extension Service (LCES) Education and Outreach Program is a voluntary, nonregulatory education and outreach program created by the Smith-Lever Act of 1914. It is administered by the Louisiana State University Agricultural Center through parish outreach offices and is conducted in all parishes in Louisiana. These parish outreach offices are staffed by professional extension agents with expertise in agriculture, forestry, and natural resource conservation and management. Educational programs are developed and implemented in each local parish that address needs and issues deemed most important to the local constituency. This is accomplished in most parish Extension Service offices through the use of constituency based advisory committees.

Many effective educational and outreach techniques are utilized by LCES professionals to provide pertinent educational information to natural resource user groups. Educational services such as public meetings, workshops, seminars, field days, newsletters, publications, circular letters, newspaper articles, radio and television programs, method and result demonstrations, field visits and office contacts are offered at no cost and are available to everyone.

Supporting the LCES field staff are the state office specialists who help coordinate parish outreach activities. These specialists offer expertise in the areas of wetlands and coastal resources, wildlife, forestry, water quality, environmental education, solid waste management, marine fisheries, aquaculture, agriculture and natural resources economics, agronomy, crop production, public policy, livestock production, youth education, home economics, and agriculture engineering.

An integral part of the LCES Outreach and Educational Program is the 4-H Youth education program in each parish. Operating through elementary and secondary schools, 80,000 students are exposed to issues and industries important to Louisiana.

Technical resources for the implementation of the LCES program are available through the numerous research stations located throughout the state. The continual agricultural and forestry research conducted on these stations provides the Extension agents with up-to-date research information that can be effectively passed along to producers, resource users and consumers.

The Louisiana Cooperative Extension Service serves as the educational arm of the United States Department of Agriculture (USDA) in Louisiana. The LCES Education and Outreach program utilizes the "teaching by doing" approach. They offer programs, demonstrations, and field visits keyed to the implementation of Best Management Practices to agricultural practices. All 6217 (g) management measures that apply are addressed by these BMPs.

Louisiana Cooperative Extension Service (LCES)/Louisiana Rice Growers Association/Louisiana Farm Bureau Federation Operation Quack Back Program

The Operation Quackback Program, is jointly sponsored by Louisiana Cooperative Extension Service, the Louisiana Farm Bureau Federation, and the Louisiana Rice Growers Associatioin. This program promotes the simple practice of holding water on rice fields over the winter months, providing supplementary habitat for migratory waterfowl, with a related increase in consumption of "red rice" weed seeds. Reduction of this weedy pest should translate into less herbicide (molinate, thiobencarb) needed in the spring. Additional conservation benefits come from standing water protecting the soil surface from the erosive force of hard Louisiana rains; and from holding turbid water, allowing time for the settling out of finer sediments. This small but growing program has most direct relevance to the management measures for **Erosion and Sediment Control**, and **Irrigation**, but also has some bearing on the measures for **Pesticide Management** and **Nutrient Management**.

Louisiana Department of Environmental Quality Nonpoint Source Management Program (319 Program)

Section 319 of the Clean Water Act (PL 100-4, Feb 4, 1987) was enacted to specifically address problems attributed to nonpoint sources of pollution. Its objective is to restore and maintain the chemical, physical, and biological integrity of the Nation's waters (Sec.101, PL 100-4). It introduces the Nonpoint Source Management Program (PL 100-4) which instructs the governor of each state to prepare and submit a Management Program for reduction and control of nonpoint source pollution from nonpoint sources into navigable water within the state by implementation of a four year management plan.

In response to this federal law, the state of Louisiana passed Revised Statute 30:2011, signed by the governor in 1987 as Act 272. This law directed the Louisiana Department of Environmental Quality (LDEQ), designated as the lead agency for the NPS program, to develop and implement a NPS Management Program. The NPS Management Program was developed to facilitate coordination with appropriate state agencies including, but not limited to, the Louisiana Department of Natural Resources (LDNR), the Louisiana Department of Wildlife and Fisheries (LDWF), the Louisiana Department of Agriculture and Forestry (LDAF) and the state Soil and Water Conservation Committee, in those areas pertaining to their respective jurisdictions.

The purpose of the Nonpoint Source Management Program is to describe the implementation strategy which the State of Louisiana has taken for implementation of the program. The management strategy is based on interagency cooperation and coordination of all state and federal agencies in Louisiana who have nonregulatory or regulatory programs which provide enforcement, technical assistance, financial assistance, education, training, technology transfer, and demonstration projects that can be utilized to implement Best Management Practices (BMPs).

Agricultural activities make up one section of the NPS Management Program. Best Management Practices for agricultural enterprises have been developed in coordination with the LSU Agricultural Center (see previous discussion). These BMPs were designed to help prevent erosion of soil and runoff of nutrients and pesticides into surface waters of the state. The LDEQ is working with the LCES, LDAF, NRCS(SCS), and CFSA (ASCS) on a cooperative program

directed at increasing implementation of BMPs on agricultural lands. The approach taken combines long-term educational programs and demonstration projects that provide information to the landowners and land managers on the types of water quality problems that result from agricultural activities, and what management practices are recommended for reduction and correction of the identified problems. While the 319 program has statewide responsibilities, conducting projects for the management of agricultural runoff in all parts of the state (e.g., Tensas River Basin in Northeastern LA), a substantial portion of its efforts are concentrated in or near coastal watersheds.

One such project of 1993/94 surveyed rice producers in the Bayou Queue de Tortue area of Southwestern Louisiana to get a better estimate of the extent of BMP implementation. Results indicated that "retention of flood water within a closed levee system after soil-disturbing activities," and "water planting in previous crop residue" projected to be two of the more utilized BMPs.

The LDEQ Nonpoint Source section is presently cooperating with LDAF, USDA/NRCS, LCES, Soil and Water Conservation Districts, the Barataria-Terrebonne National Estuary Program, and the Gulf of Mexico Program to implement a public outreach program, the Sugarcane Nutrient Management Program. It has also commissioned research into ways to more efficiently achieve sugar cane pest control, with reduced levels of chemical pesticides. Early results are promising, and related demonstration projects are underway to promote the dissemination of innovative practices.

LDEQ has been working in close cooperation with many of the above agencies to get dairy wastewater treatment lagoons in place in the largest dairy parish in Louisiana, Tangipahoa.

The BMPs that are being implemented there match up well with the **Confined Animal Facility** wastewater guidelines in the 6217 (g) guidance manual, as NRCS (SCS) descriptions were relied upon in developing both programs.

As stated, the NPS Management Program actively implements BMPs within targeted watersheds through cooperative efforts and interagency agreements. The NPS program is a nonregulatory program and at present does not have enforceable policies. However, within the LDEQ agency is housed substantial enforcement authority for other environmental concerns, and the agency can exercise some discretion as to whether a particular problem is to be handled as a nonpoint source issue, or whether it is subject to regulation as a point source problem, a hazardous waste problem, and/or constitutes a degradation of the state's waters.

The NPS Management Program addresses all of the 6217 (g) guidance management measurements for agriculture. While much work remains to be done, this program can demonstrate tangible achievements in helping further the ultimate goals of the 6217 coastal program, the implementation of BMPs on the land.

Louisiana Natural Heritage Preservation and Land Acquisition Program (LDWF)

The Louisiana Natural Heritage Preservation and Land Acquisition Program (La.R.S.tit 56:1830) was created in 1987. The legislation states that within the Louisiana Department of Wildlife and

Fisheries (LDWF), the Louisiana Natural Heritage Program is created to administer the provisions of law and rules and regulations regarding the Louisiana Natural Areas Registry, the Threatened and Endangered Species Conservation program, and those programs, duties, and functions designated by the secretary in accordance with law.

The Department of Wildlife and Fisheries is authorized to enter into agreements with national, nonprofit membership land conservation organizations to conduct programs, manage, preserve, and conserve land, and to purchase lands. The program is statewide and nonregulatory in nature.

6217(g) agriculture management measures are addressed under this program such as MM 2 II.A.u., "wetland and riparian zone protection."

LSU Agricultural Center Best Management Practices Review and Development Program

The people of Louisiana are presently in the process of identifying Best Management Practices (BMPs) for agriculture, statewide, but which are also applicable to the agriculture source category of the LA Coastal Nonpoint Pollution Control Program. Much work has been done thus far under the leadership of the Louisiana State University Agricultural Center toward identifying BMPs by commodity or livestock enterprise. The Best Management Practices Review and Development Program is a multi-agency program created in 1991 to evaluate the use of BMPs as a vehicle for environmental improvement on agricultural and forest lands. The BMP Review and Development Program was conceptualized to help achieve voluntary producer implementation of economically achievable, effective BMPs, statewide. The implementation was intended to be watershed based, and using site specific approaches for BMP applications.

To date, reports have been issued after review of BMPs associated with production of cotton, dairy, rice, sugarcane, feed grains, poultry, and soybeans. BMPs pertaining to forestry operations have also been evaluated and compiled by the Louisiana Office of Forestry (LOF) in cooperation with the Louisiana Forestry Association (LFA) and the Louisiana Cooperative Extension Service (LCES). Over the coming months, BMPs covering aquaculture, commercial vegetables and fruits, nurseries and ornamentals, sweet potatoes, swine production, and agricultural and seafood processing will continue to be reviewed and evaluated.

Louisiana's Stewardship Incentive Program (SIP)

The Forest Stewardship Program is a nationwide program designed to encourage and assist nonindustrial private landowners in more actively managing their forest resources, and can be extended to bring agricultural land into forest cover. Under the program, a Forest Stewardship **Management Plan** is prepared, specifically designed to enhance and manage all of the natural resources of the landowner's forestland. An important environmental benefit of this management plan is clean water production.

The Stewardship Incentives Program (SIP) offers financial assistance to landowners participating in the Forest Stewardship Program. SIP provides cost-share assistance to help the landowner establish the practices prescribed in the Forest Stewardship Management Plan. Eligibility for SIP requires nonindustrial landowners to own a minimum of ten forested acres, have the above mentioned management plan, and agree to maintain cost-shared practice for no less than ten

years. There is an acreage limit of no more than 1,000 acres of nonindustrial private forestland per landowner but a waiver may be approved for this requirement.

Objectives of SIP include reforestation of non-stocked, under-stocked and eroding forestland; habitat improvement for wildlife and fisheries; promotion of Best Management Practices (BMPs) to maintain, enhance, and protect site productivity; and the protection of threatened and endangered species. In Louisiana the Stewardship Incentive Program is a statewide, nonregulatory program implemented by the Louisiana Office of Forestry (LOF) and the Natural Resource Conservation Service (formerly Soil Conservation Service, SCS). In its first year the SIP program enrolled 19 participants with over 2200 acres located in Louisiana's coastal zone and adjacent parishes.

The Forest Stewardship Management Plan required for participation in the Stewardship Incentives Program is a site specific plan and therefore addresses wholly or in part 6217 (g) management measures particular to the management situation. The plan considers long-term management of:

1. forest health,
2. fire hazard,
3. timber and wood products,
4. soil and water quality
5. riparian areas and wetlands,
6. wildlife and fish habitat,
7. outdoor recreation and aesthetics,
8. threatened and endangered species, and
9. cultural and historic areas.

Cost-sharing is available for certain SIP practices. These practices address specific (g) management measures. SIP Practice 2 is Reforestation and Afforestation. The purpose of this practice is to establish a stand of forest trees for conservation purposes and timber production and maintain newly established trees for a specified number of years. SIP Practice 5 is Soil and Water Protection and Improvement. The purpose of this practice is to maintain and improve water quality or forestland as well as soil productivity and prevent erosion on forestland. Specifically, these SIP practices address revegetation components of the (g) management measure 2 II.A. (**Erosion and Sediment Control**), and 2.II.C., on developing farm conservation plans. SIP Practice 6 is Riparian and Wetland Protection and Improvement. The purpose of this practice is to protect, restore, and improve wetlands and riparian areas, reduce sedimentation, reduce streambank degradation, improve water quality and restore productivity. This practice is relevant to 6217 (g) management measure/practice 2 II.A.u."wetland and riparian zone protection."

Soil and Water Conservation Districts

Louisiana has established local soil and water conservation districts, the purpose of which is to protect and promote health, safety, and the general welfare of the people that have been endangered by improper land use practices (LA.R.S. Ann. 3: 1201 et seq.). The SWCD can enact

supplementary local land use regulations as needed to carry out its charge. The SWCD mandate includes:

§1208. Powers of Districts and Supervisors

"(1) To carry out **preventive and control measures** and works of improvement for flood prevention or the conservation, development, utilization, and disposal of water within the district including, but not limited to, **engineering operations, methods of cultivation, the growing of vegetation, changes in use of land**, and the measures listed in R.S. 3:1201 (c), on lands owned or controlled by this state or any of its agencies, with the cooperation of the agency administering and having jurisdiction thereof, and on any other lands within the district upon obtaining the consent of the owner as well as occupants of such lands or the necessary rights or interests in such lands..."

USDA Conservation Compliance Provision of the Food Security Act of 1985

The Conservation Compliance provision of the 1985 "farm bill," the Food Security Act of 1985 (P.L. 99-198), seeks to protect environments particularly vulnerable to further agricultural development. This provision requires farmers with any lands designated as Highly Erodible Land, to develop and submit conservation management plans for these lands by January 1995. Inadvertent cultivation of these sensitve lands without benefit of conservation plan incurs monetary penalties, and willful or multiple violations leads to disqualification from participation in most federal commodity support programs. Similarly, the wetlands conversion corollary of this provision penalizes new conversion of designated wetlands with disqualification from the support programs.

USDA Consolidated Farm Service Agency (CFSA, formerly Agricultural Stabilization and Conservation Service, ASCS) Agricultural Conservation

Program

The Agricultural Conservation Program (ACP) is a national program available to all agricultural producers to implement practices designed to protect the soil and reduce the pollution of water, air, and land from agricultural or silvicultural nonpoint sources. Cost-sharing is available for planting trees and shrubs and improving timber stands for protection against wind and water erosion and to provide trees for timber production. In Louisiana, up to 50 percent cost-share may be provided to establish, regenerate, or improve forest stands.

The program is administered by the CFSA [formerly Agricultural Stabilization and Conservation Service (ASCS)], the Natural Resources Conservation Service (NRCS), [formerly Soil Conservation Service (SCS)], and the Louisiana Office of Forestry (LOF). The program was authorized in the Soil Conservation and Domestic Allotment Act, approved February 29, 1936, as amended. It is generally depicted as a nonregulatory program but under certain long-term agreements, producers must agree to maintain conservation practices for a specified number of years. Those who fail to do so are required to refund all or part of the Federal funds provided for installation of the practice. Since 1991, there has been an increase of 63 individual participants in

the ACP with nearly 1,000 new acres being taken into the program in the Louisiana Coastal Zone and adjoining parishes.

The Agricultural Conservation Program addresses at least two of the 6217 (g) management measures. These measures include II.A. **Erosion and Sediment Control**, with provisions analogous to the (g) guidance BMPs a., g., k., l., and u.; and the **Nutrient Management Measure** (II.C.) calling for farm plans that include farm and field mapping, and identification of environmental field limitations (highly erodible lands, proximity to surface waters, etc.). Because each conservation plan would be site specific, different elements of the above management measures would be addressed by each plan.

USDA CFSA (formerly ASCS) Conservation Reserve Program (CRP)

The Conservation Reserve Program offers long-term rental payments and cost-share assistance to **establish permanent vegetative cover on cropland that is highly erodible or contributing to a serious water quality problem**. The program is authorized by the Food Security Act of 1985 (PL 99-198) as amended by the Food, Agriculture, Conservation, and Trade Act of 1990 (PL 101-624). A conservation plan must be developed and approved by the local conservation district for accepted acreage. In Louisiana the program is implemented by the Consolidated Farm Service Agency, (formerly Agricultural Stabilization and Conservation Service ASCS), the Natural Resources Conservation Service (NRCS), [formerly Soil Conservation Service (SCS)], and the Louisiana Office of Forestry (LOF). The CRP is generally categorized as a nonregulatory program but certain eligible conservation practices such as tree planting require "useful life easements" in which the landowner receives rental payments but must maintain the conservation practice for the entire easement period.

As of 1994, over 144,000 acres in Louisiana have been contracted into the Conservation Reserve Program, with 79,000 of these acres being planted in trees. In Louisiana's Coastal Zone and adjacent parishes over 24,000 acres have been accepted into the program.

Conservation plans required by the CRP would address 6217 (g) management measures 2 II.A. **Erosion and Sediment Control**, with provisions analogous to the (g) guidance BMPs a., g., k., l., and u.; and 2 II.C., the **Nutrient Management Measure** calling for farm plans.

USDA CFSA (formerly ASCS) Water Bank Program (WBP)

The Water Bank Program applies to wetlands and is designed to conserve surface water; reduce runoff, soil, and wind erosion; contribute to flood control; improve water quality; and improve subsurface moisture. It was authorized by the Water Bank Act which was passed by Congress December 19, 1970, and amended January 2, 1980. The Water Bank Program is a cost-share, nonregulatory program in which landowners receive annual payments for conserving and protecting wetlands from practices which may destroy the character of the wetland.

Land eligible for the program must be privately owned inland fresh wetlands which are suitable for the nesting, breeding, or feeding of migratory waterfowl. In Louisiana the program is statewide and administered by the CFSA [formerly Agricultural Stabilization and Conservation Service (ASCS)] and the Natural Resources Conservation Service (NRCS), [formerly Soil

Conservation Service (SCS)]. As of January 31, 1993, thirty-seven landowners have been admitted to the Water Bank Program in Louisiana's Coastal Zone and adjacent parishes. A total of 15,739 wetland acres, not including an additional 1,458 adjacent acres, have qualified for admission into the program.

The WBP could address all the 6217(g) management measures in that the 10-year agreement entered into by the landowner with the CFSA (ASCS) requires the participating landowner to develop and follow a conservation plan which would prescribe specific forest practices to be conducted on the managed tract.

USDA CFSA (formerly ASCS) Wetland Reserve Program (WRP)

The Food Security Act of 1985 (P.L. 99-198) as amended by the Food, Agriculture, conservation, and Trade Act of 1990 (P.L. 101-624) authorized the Wetlands Reserve Program (WRP). The WRP is a voluntary, cost-share program to aid landowners in restoring and protecting wetlands. The **restoration of wetland hydrology and vegetation** will restore the functions and values of wetlands for migratory birds and other wildlife habitat and improve water quality. To participate in the WRP, landowners must grant a **permanent easement** to the United States Department of Agriculture (USDA) ensuring protection of the wetland in return for a WRP payment.

A Wetland Reserve Plan of Operations (WRPO) will be developed for this easement by the Natural Resources Conservation Service (NRCS), [formerly Soil Conservation Service (SCS)], and the Fish and Wildlife Service (USFWS) which mandates practices to restore the functional values of the wetland. The easement area will be periodically inspected to ensure that it is properly managed and maintained as required in the WRPO. Violations of the easement may result in the owner being required to refund all or part of the payment made, with interest.

Louisiana's statewide program is implemented by the CFSA [formerly Agricultural Stabilization and Conservation Service (ASCS)], Natural Resources Conservation Service (NRCS), [formerly Soil Conservation Service (SCS)], the Fish and Wildlife Service (USFWS), Louisiana Cooperative Extension Service (LCES), Louisiana Office of Forestry (LOF), and Soil and Water Conservation Districts. Technical services are provided by the NRCS, USFWS, and LOF.

The first Wetland Reserve Program sign-up held in 1992 resulted in 37 easements being filed from thirteen parishes. This amounted to 11,356 easement acres being included in the program. Of this total, 915 acres was in the Louisiana Coastal Zone and adjacent parishes. Tentative data indicate that the second (1994) sign-up resulted in seven LA parishes enrolling approximately 11,986 acres.

As stated earlier, the Wetlands Reserve Program, as with the other Federal cost-share programs mentioned, **requires a workable land management plan**. Depending on site specific conditions, this program could address all 6217 (g) management measures. Especially pertinent would be management measures 2 II.A. **Erosion and Sediment Control**, and the **Nutrient Management Measure** (2 II.C.) calling for farm plans, as well as all management measures associated with (g) guidance chapter 7, "... Wetlands, Riparian Areas, and Vegetated Treatment Systems."

USDA FARM*A*SYST Program

The USDA FARM*A*SYST Program is a nonregulatory public outreach program sponsored jointly by the USDA Natural Resources Conservation Service (formerly Soil Conservation Service), US Environmental Protection Agency, and administered within the state by the primary outreach agency for agriculture, the Louisiana Cooperative Extension Service. The program is designed to educate and to assess environmental risks on the farmstead and in other rural areas. It has particular relevance to 6217 management measures for responsible pesticide use in the environment (MM 2 II.D.), for livestock waste management (MM 2 II.B.1 and 2), and for "site evaluation - soils and geologic characteristics of the farm" (equates to MM 2 II.C.on farm and nutrient planning).

USDA Natural Resource Conservation Service (former Soil Conservation Service)

Conservation Operations Program

The Conservation Operations Program comprises the day to day technical support activities carried out by the NRCS/SCS in assisting individuals and groups to manage soil and water resources of the land they use. The objectives of the NRCS (SCS) Conservation Operations emphasize language such as "understanding soil and water problems and solutions," "sustainable use of soil and water resources," or "improving quality of the environment." This program is not limited to rural areas, but includes an objective to "provide proper land use and treatment of soil, water, and related plant and animal resources for all uses (farming, ranching, forestry, housing, recreation, transportation, public facilities, and multiple uses)." A major part of the program includes assisting land users to formulate conservation plans for farms and other land holdings. This guidance is provided by the staff of the fifty-one field offices in Louisiana.

USDA Natural Resource Conservation Service (former Soil Conservation Service)

Resource, Conservation and Development Program

The NRCS Resource, Conservation and Development Program (PL-74-46, as amended) targets multi-parish regions that are relatively less developed, and offers economic development incentive grants and technical guidance, linked to natural resource conservation. This linkage is emphasized in the RC&D program, as it is set up to both develop and to conserve resources; and to improve economic activity and standard of living while yet striving to "enhance the environment." A second prominent feature of this program is its long-range nature in providing guidance and support to local people in the RC&D region. In Louisiana there are now five of these designated regions, with the Capital RC&D Area including several parishes that are at least partly in the coastal zone (Assumption, Livingston, Tangipahoa, and St.Tammany), and the Imperial-Calcasieu RC&D area including coastal Cameron Parish, and Calcasieu Parish.

USDA Natural Resource Conservation Service (former Soil Conservation Service)

Watershed Protection and Flood Prevention Program

Congress authorized the SCS (now the NRCS) to provide financial and technical assistance for "planning, designing, and installing works of improvement which are related to flood prevention, drainage, irrigation, sediment control, public water based fish and wildlife recreation, and accelerated land treatment measures." These projects are based on the watershed concept, and are intended for small watersheds of 250,000 acres or less. The projects are supported by the NRCS (formerly SCS), but carried out by local sponsors (drainage districts, levee boards, police juries, or soil and water conservation districts). Thus far 22 projects have been completed in Louisiana under this program. The NRCS watershed planning specifically relates to the **Erosion and Sediment Control** Management Measure II.A. (agriculture Chapter 2, in the 6217 (g) Guidance Specifying Management Measures.

III. 6217(g) MANAGEMENT MEASURES FOR AGRICULTURE MATCHED WITH EXISTING FEDERAL AND STATE PROGRAMS

1) (II.A.) Erosion and Sediment Control Management Measure

LDWF Louisiana Natural and Scenic Rivers System
Soil & Water Conservation Districts
USDA CFSA (ASCS) Agriculture Conservation Program
USDA CFSA (ASCS) Conservation Reserve Program
USDA CFSA (ASCS) Water Bank Program
USDA CFSA (ASCS) Water Quality Incentive Program
USDA CFSA (ASCS) Wetlands Reserve Program
LDEQ Water Quality Certification Program (401)
LDEQ Nonpoint Source Program (319)
Louisiana Cooperative Extension Service Public Outreach Programs
Louisiana Cooperative Extension Service Operation Quackback Program
LSU AG Center BMP Review Program
USDA NRCS (SCS) Conservation Operations
USDA NRCS (SCS) Resource Conservation & Development
USDA NRCS (SCS) Watershed Programs

2) (II.B.1) Management Measure for Facility Wastewater and Runoff from

Confined Animal Facility -- Large Units

LDEQ Permitting of Discharges into Surface Waters (402)
LDWF Louisiana Natural and Scenic Rivers System
Soil & Water Conservation Districts
USDA CFSA (ASCS) Agriculture Conservation Program
USDA CFSA (ASCS) Conservation Reserve Program
USDA CFSA (ASCS) Water Bank Program
USDA CFSA (ASCS) Water Quality Incentive Program
USDA CFSA (ASCS) Wetlands Reserve Program
LDEQ Water Quality Certification Program (401)
LDEQ Nonpoint Source Program (319)
LDHH Water Sampling Program

Louisiana Cooperative Extension Service Public Outreach Programs
LSU AG Center BMP Review Program
USDA FARM*A*SYST Program
USDA NRCS (SCS) Conservation Operations
USDA NRCS (SCS) Resource Conservation & Development
USDA NRCS (SCS) Watershed Programs

3) (II.B.2) Management Measure for Facility Wastewater and Runoff from

Confined Animal Facility -- Small Units

LDEQ Permitting of Discharges into Surface Waters
LDWF Louisiana Natural and Scenic Rivers System
Soil & Water Conservation Districts
USDA CFSA (ASCS) Agriculture Conservation Program
USDA(CFSA ASCS) Conservation Reserve Program
USDA CFSA (ASCS) Water Bank Program
USDA CFSA (ASCS) Water Quality Incentive Program
USDA CFSA (ASCS) Wetlands Reserve Program
LDEQ Water Quality Certification Program (401)
LDEQ Nonpoint Source Program (319)
LDHH Water Sampling Program
Louisiana Cooperative Extension Service Public Outreach Programs
LSU AG Center BMP Review Program
USDA FARM*A*SYST Program
USDA NRCS (SCS) Conservation Operations
USDA NRCS (SCS) Resource Conservation & Development
USDA NRCS (SCS) Watershed Programs

4) (II.C.) Nutrient Management Measure

LDAF - Fertilizer Law
LDEQ Permitting of Discharges into Surface Waters
LDWF Louisiana Natural and Scenic Rivers System
Soil & Water Conservation Districts
USDA CFSA (ASCS) Agriculture Conservation Program
USDA CFSA (ASCS) Conservation Reserve Program
USDA CFSA (ASCS) Water Bank Program
USDA CFSA (ASCS) Water Quality Incentive Program
USDA CFSA (ASCS) Wetlands Reserve Program
LDEQ Water Quality Certification Program (401)
LDEQ Nonpoint Source Program (319)
Louisiana Cooperative Extension Service Public Outreach Programs
LSU AG Center BMP Review Program
USDA FARM*A*SYST Program
USDA NRCS (SCS) Conservation Operations Program

USDA NRCS (SCS) Resource Conservation & Development
USDA NRCS (SCS) Watershed Programs

5) (II.D.) Pesticide Management Measure

LDAF Pesticide Program - Regulatory & Certification
LDEQ Permitting of Discharges into Surface Waters
LDWF Louisiana Natural and Scenic Rivers System
Soil & Water Conservation Districts
USDA CFSA (ASCS) Agriculture Conservation Program
USDA CFSA (ASCS) Conservation Reserve Program
USDA CFSA (ASCS) Water Bank Program
USDA CFSA (ASCS) Water Quality Incentive Program
USDA CFSA (ASCS) Wetlands Reserve Program
USFWS Endangered Species Act/Critical Habitat mapping
LDAF Habitat Spray Mapping
LDEQ Water Quality Certification Program (401)
LDEQ Wellhead Protection Program
LDEQ Nonpoint Source Program (319)
Louisiana Cooperative Extension Service Public Outreach Programs
LSU AG Center BMP Review Program
USDA FARM*A*SYST Program
USDA NRCS (SCS) Conservation Operations
USDA NRCS (SCS) Resource Conservation & Development
USDA NRCS (SCS) Watershed Programs

6) (II.E.) Livestock Grazing Management Measure

LDEQ Permitting of Discharges into Surface Waters
LDWF Louisiana Natural and Scenic Rivers System
Soil & Water Conservation Districts
USDA CFSA (ASCS) Agriculture Conservation Program
USDA CFSA (ASCS) Conservation Reserve Program
USDA CFSA (ASCS) Water Bank Program
USDA CFSA (ASCS) Water Quality Incentive Program
USDA CFSA (ASCS) Wetlands Reserve Program
LDAF Prescribed Burning Program
LDEQ Water Quality Certification Program (401)
LDEQ Nonpoint Source Program (319)
LDHH Water Sampling
Louisiana Cooperative Extension Service Public Outreach Programs
LSU AG Center BMP Review Program
USDA NRCS (SCS) Conservation Operations
USDA NRCS (SCS) Resource Conservation & Development
USDA NRCS (SCS) Watershed Programs

7) (II.F.) Irrigation Management Measure

LDEQ Permitting of Discharges into Surface Waters
LDWF Louisiana Natural and Scenic Rivers System
Soil & Water Conservation Districts
USDA CFSA (ASCS) Agriculture Conservation Program
USDA CFSA (ASCS) Conservation Reserve Program
USDA CFSA (ASCS) Water Bank Program
USDA CFSA (ASCS) Water Quality Incentive Program
USDA CFSA (ASCS) Wetlands Reserve Program
LDEQ Water Quality Certification Program (401)
LDEQ Nonpoint Source Program (319)
Louisiana Cooperative Extension Service Public Outreach Programs
Louisiana Cooperative Extension Service Operation Quackback Program
LSU AG Center BMP Review Program
USDA NRCS (SCS) Conservation Operations
USDA NRCS (SCS) Resource Conservation & Development
USDA NRCS (SCS) Watershed Programs

§ 6217 Enforceable Policy and Mechanism (EP&M) Matrix

Agriculture. Erosion and Sediment Control Management Measure

MM Component	EP&M citation	EP&M Applicability citation
Erosion Component of a Conservation Management System (CMS) Settle solids for a 10-yr, 24-hr storm (8 to 10 in. rain in S LA)	Statute sets up a Soil and Water Conservation Committee with authority to promulgate rules and regulations governing land use for the conservation of soil and water **LA R.S. Ann. 3 § 1201, *et seq*., 1204, 1209.**	

Agriculture. Management Measure for Facility Wastewater and Runoff from Confined Animal Facility Management (Large Units)

MM Component	EP&M citation	EP&M Applicability citation
facility wastewater stored for 25-yr, 24-hr storm (9 to 12 in. rain in S LA)	1. LCRMA **LA Admin Code tit.43 § I.723 (B) (1) (a) (i).** 2. LA Water Control Law **LA R.S. 30: 2071-8; and LA**	

	Admin. Code tit. 33 § IX.301 (C) (3) bs (4), (J), and (K).	
runoff from facility stored for 25-yr, 24-hr storm		
storage structures have proper lining		
include an appropriate waste utilization system		

Agriculture. Management Measure for Facility Wastewater and Runoff from Confined Animal Facility Management (small units)

MM Component	EP&M citation	EP&M Applicability citation
facility wastewater stored for 25-yr, 24-hr storm	1. LCRMA **LA Admin. Code tit. 43 § I.723 (B) (1) (a) (i).** 2. LA Water Control Law **LA R.S. 30: 2071-8; and LA Admin. Code tit. 33 § IX.301 (C) (3) bs (4), (J), and (K).**	
runoff from facility stored for 25-yr, 24-hr storm		
include an appropriate waste utilization system		

Agriculture. Nutrient Management Measure

MM Component	EP&M citation	EP&M Applicability citation
Nutrient Management Plan component: farm and field maps		Draft wording of our "Bad Actor" clause includes a requirement for "site-specific conservation plans" as "corrective measures" for non-conforming behavior **Subpart D § 215.13 c.**
Nutrient Management Plan component: realistic yield expectations based on production history and university studies		

Nutrient Management Plan component: summary of available nutrient measurement resources		
Nutrient Management Plan component: evaluation of field limitations based on local environmental conditions		
Nutrient Management Plan component: use limiting nutrient concept to establish mix of nutrient sources appropriate for crop at realistic yield level		
Nutrient Management Plan component: identify appropriate methods and timing of nutrient application		
Nutrient Management Plan component: proper calibration and operation of nutrient application equipment		

Agriculture. Pesticide Management Measure

MM Component	EP&M citation	EP&M Applicability citation
Evaluate pest problems, previous pest control measures, and cropping history	LA Pesticide Law **LA R.S. Ann. 3 § 3201-3376**	
Evaluate soil and physical characteristics of site including mixing, loading, and storage areas for potential leaching or runoff of pesticides		
Use Integrated Pest Management (IPM) strategies that a) apply pesticides only when...		
When pesticide applications are necessary and a choice of registered materials exists, consider the persistence,		

toxicity, runoff potential, and leaching potential of products in making a selection. Periodically calibrate pesticide spray equipment Use anti-backflow devices on hoses used for fillingtank mixtures		

Agriculture. Grazing Management Measure

MM Component	EP&M citation	EP&M Applicability citation
Protect sensitive areas such as streambanks, wetlands, estuaries, ponds, lake shores, and riparian zones by one of the following: exclude livestock, provide stream crossings or hardened drinking water access, alternative drinking water locations, locate salt and shade away from sensitive areas, or use more intensive/improved grazing management Implement range and pasture elements of a CMS from the USDA/SCS FOTG, or range and pasture activity plans of the Bureau of Land Mgmt., or US Forest Service	(relative lack of EP&M's here except for invocation of "Soil and Water Conservation Committee with authority to promulgate rules and regulations governing land use for the conservation of soil and water **LA Rev. Stat. Ann. 3 § 1201, *et seq*., 1204, 1209)**	

Agriculture. Irrigation Management Measure

MM Component	EP&M citation	EP&M Applicability citation
Operate the irrigation system so that the timing and amount of irrigation water applied match crop water needs	(relative lack of EP&M's here except for invocation of "Soil and Water Conservation Committee with authority to promulgate rules and regulations governing land use for the conservation of soil and water	

LA Rev. Stat. Ann. 3 § 1201, *et seq*., 1204, 1209)

When chemigation is used, include backflow preventers for wells, minimize the harmful amounts of chemigated waters that discharge, from the edge of the field, and control deep percolation.

1)

2)Louisiana has at least four programs with broad authority for more stringent regulation than has been exercised heretofore. These programs should not be dismissed lightly, for at least two reasons. Firstly, in virtually all times and places, and especially in the present political atmosphere, there is little corporate will to add additional laws and bureaucratic instruments; laws in place may constitute "gold mines" of regulatory resources that could be utilized to some significant positive effect. Secondly, better use of these existing regulatory powers can be coaxed out by 1) setting up memoranda of agreement that explicity spell out agency actions to follow, and 2) funding targeted to enable these actions to occur. The four highlighted programs -- all with shortcomings, all with potential -- are the Soil and Water Conservation Districts, the Conservation Compliance provision linking USDA (CFSA) support programs, the Dept. of Environmental Quality's oversight authority over discharges into surface waters, and the Louisiana Natural and Scenic Rivers System. In addition there are regulatory entities such as the Louisiana Pesticide Commission, and the Louisiana Fertilizer Commission whose scope is much less broad, but whose authority is powerful over a narrower range of activities.